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ABSTRACT

The current development of a communication theory known as coordinated management of meaning is presented in this report. The communication process is modeled as an open system; human actors constitute component subsystems with the ability to organize their cognitions into constitutive and regulative rules. The conjoining of individuals' rule sets forms the logic of the system. The metatheoretical underpinnings of the theory and an analysis of causal forces operating in the communications systems are provided, and special attention is given to structural variations within rules based on a proposed set of structural differentia. A set of theorems and axioms are offered, relating structural and content variation within rules to the functioning of communication systems. (Author/DF)

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THE LOGIC OF THE COORDINATED MANAGEMENT OF MEANING: AN OPEN SYSTEMS MODEL OF INTERPERSONAL COMMUNICATION

by

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The conceptualizing reported in this paper pertains to conversations, defined as exchanges of sequential messages alternatively produced by two or more interlocutors, which occur in a variety of contexts, including casual chats, forensic interrogations, family problem-solving discussions, etc. As an object of study, conversations have not loomed large in the history of social thought, perhaps for three reasons. First, western philosophy has traditionally assumed a functional equivalence between the structure of experience and the means of expression (Pearce and Branham, 1978). Although considerable attention was given to the practical arts of adding effectiveness to truth in public speaking and writing, most people assumed without question that any normal human could communicate sensibly, if not eloquently, and that communication served as a colorless, odorless vehicle of thought. Second, conversations seem banal and inefficacious when compared to the products of the printing press, broadcasting station, or orator's rostrum. Third, conversations seem unstructured to the point of unpredictability. Garfinkel (1967), for example, described the praxis of conversation as a process of "ad hocing" one's way along, hence not amenable to anything but post hoc explication.

The development of thought during this century, both in philosophy and science, has occasioned a serious study of conversations. Beginning with Wittgenstein (1949, 1963), formal analyses of the structure of symbolic systems have demonstrated the inherently problematic nature of communication at the same time when social scientists (Mead, 1934; Berger and Luckman, 1966; Douglas, 1970) discovered that even ordinary conversations are the manifestations of powerful processes whereby persons negotiate their self identities, forge interpersonal relationships, determine that which passes as "factual,"

and construct social institutions. The "pragmatics" of communication even in ostensibly trivial contexts are the ways in which "people can drive each other crazy and ... very different world views ... can arise" (Watzlawick, 1976, p. xii).

We begin with these assumptions about conversation.

1. The physical manifestations of conversations, "messages," are indexical "tokens" of participant's meanings, neither the substance nor isomorphic representation of the substance of conversations.

2. The trans-message structure of conversations are in actor's meanings, not linkages between properties of messages per se.

3. Conversations exhibit considerable regularity within but variation between situations and speech communities, e.g., dueling rhymes among Turkish boys; "playing the Dozens" among urgan U. S. Blacks; timing and sequencing topics in initial conversations among affluent U. S. Whites; etc.

4. The structure of any given conversation is produced by the characteristics of the rules for meaning and action followed by interlocutors.

Two general types of explanation of conversations have been offered, roughly following the positions in the traditional debate between proponents of "free will" and "determinism." Wilson (1970) described the "interpretive paradigm" which explains conversation with reference to the methods persons use to assign meaning to messages and to determine what act to perform, and the "normative paradigm" which explains conversation with reference to pre-existing elements in the social order, as a reenactment of culturally sanctioned episodes, or as the following of social rules. The theory of "the coordinated management of meaning" implies that Wilson's is a false dichotomy by affirming four propositions: 1) pre-existing elements in the social order have ontic status only as they are represented in the individual communicator's system of rules

for meaning and action; 2) these rule systems have variable content and variable organization; 3) the degree of similarity between the structure and content of interlocutors' rules determines the extent to which communication will be problematic; and 4) the structure and content of each interlocutor's rule system determines the nature of his/her interpretive procedures in the conversation. These premises may be elaborated into a theory of interpersonal communication which (following Harre, 1970) consists of both a paramorphic model of interpersonal communication systems and an account of how variation in the content and structure of those systems leads to various forms of communication.

The argument in this paper is complex, and we have felt compelled to address the issues both at an abstract level and with concrete exemplars. The argument stands on three topics: 1) a rationale for a transpersonal unit of analysis coupled with a first approximation of a vocabulary for describing types of conversational sequences; 2) a model of communication as the sequential action of an interpersonal system comprised of the juxtaposed rules for meanings and action of two or more persons; and 3) a set of sentences systematically describing the relationships among types of communication and characteristics of the interpersonal system.

FORMS OF INTERPERSONAL COMMUNICATION: COORDINATION AND ITS SURROGATES

Ordinary language provides no taxonomy of descriptors for various patterns of sequential, alternatively produced messages, although communicators are well aware that their attempts to converse sometimes work well and sometimes not at all. We employ "coordination" as the ancestral term for explaining conversational patterns because it focuses attention on transpersonal patterns. Coordination denotes symmetrical interpretation of the on-going sequence of messages and conjoint production of behaviors perceived as patterned. Two dancers or

two boxers are coordinated to the extent that each person's moves are in relation to the other's, even to the extent of mutual interpretation of particular moves as "mistakes," "flourishes" or "jokes." Similarly, conversations may be wildly contorted, but are coordinated as long as all participants contort similarly.

It is useful to consider coordination an objective requiring considerable ability by the conversants, and that there is no necessary relationship among sequential messages. From this perspective, four types of interpersonal communication may be identified which differ in the amount of "plastic control" (Popper, 1966) which the conversants exert: 1) uncontrolled oscillations; 2) patterns without directional control; 3) directionally controlled patterns with high frangibility; and 4) coordinated management.

Communicators sometimes find themselves in relationships where each act is followed by an unanticipated response by the other. Random oscillations of meanings may occur when actors are oblivious to certain content or relational meanings or differ in definitions of the conversational situation. Consider this conversation in a college form on the eve of a statistics exam:

Bill (desiring information): "How do you compute X^2?"

Bob (ready to switch from studying to joking): "Ha, Ha! I heard another version of that one. Where does a 50 pound goldfish sleep?"

Bill (needing information, trying to switch from joking to studying): "Damn it, do you know how or not?"

Bob (trying to prevent being put "one-down"): "Look, I may have missed that class but I'll still do better than you on the exam!"

Bill (ready to terminate the conversation): "I want a new roommate."

Control is minimal in this conversation: the conversants are not only surprised by subsequent statements but they cannot even agree on what counts as a deviant or devious statement.

A frequently documented phenomenon in communication research is that of a dyad engaging in highly patterned, predictable sequences of behavior, but over which the actors seem to have little control. Predictable patterns without directional control may be manifested in several ways: symmetrical escalation, in which each successive behavior is e.g., more dominant then the previous one (Watzlawick, Beavin and Jackson, 1967); or escalating complementarity, in which the distance between the dominant and submissive person increases with each successive behavior (Carson, 1969). A rule which prescribes a "progressive" pattern such as either of these without providing a stop-point ultimately demands behaviors which cannot be performed and/or invokes other rules which lead to termination of the relationship between the communicators. The effect of the conjoining of two actors' rule sets thus may set in operation a system logic which yields unwanted outcomes. Consider Tom, whose rules are:

R_1: When asked for advice, give information in order to avoid being held responsible;

R_2: When the other person does not see the value of your information, give more to be helpful without accepting responsibility;

R_3: When the other person is a chronic -emurrer, terminate in order not to waste time.

And Bill, whose rules are:

R_1: When in doubt, ask for advice in order not to fail;

R_2: When given information rather than advice, demur so that the other will shift to advice-giving;

R_3: If the advisor terminates, seek him again later to get advice.

The conversations between Tom and Bill are likely to be filled with long silences and mutual irritation. The natural tendency of each to castigate the other as a poor communicator or a nasty person obscures the fact that either may be neither in communication with other people.

Cozer (1968, p. 198) described systems which cannot adjust to variations without crises are frangible. In human communication, frangibility describes patterns of behavior which resist changes when subjected to modest pressures and break down completely when pressures are high. For example, a militant feminist and an adamant chauvinist may adhere strictly to a pattern of trivial chatter, knowing that the introduction of almost any other topic will quickly produce loss of control. Raush, et al., (1974, pp. 47-48) report that couples may attempt to avoid conflict by highly patterned interactions that avoid any behaviors which suggest inconsistent goals. Such recurrent patterns are, however, periodically shattered by powerful emotional outbursts.

THE PARAMORPHIC MODEL: AN INTERPERSONAL, OPEN SYSTEM

The necessity for a dyadic unit of observation for communication has been frequently noted under the rubric "the interactional perspective" (Watzlawick, 1976) or as "relational communication" (Millar and Rogers, 1976). However, there have been only primitive attempts to explain why particular sequential patterns occur. The primary substantive claim of this paper is that there are knowable properties of persons which account for the way they communicate with each other. We depict these properties as an interpersonal, open system.

The structure of the system must be represented both at the level of the persons who are the system-components and of the interpersonal interpenetration which occurs when these components act reciprically. The individuals are represented as a hierarchically organized set of rules for meaning and action

(Pearce, Cronen and Conklin, 1977), and the interpersonal system is represented as a "logic" formed by the juxtaposition of the individuals' rules.

Four characteristics of the structure of the interpersonal system are important, each of which pertains to its "openness." 1) The "logic" varies. Rather than postulating a prescriptive, invariant logic such as Grice's (1975), we suggest that the interpersonal logic depends on the content and structure of the individuals' rules, and that these vary in organization (the number of constructions they use to represent particular events, the degree of integration and the level of abstraction of these constructions, see Kelley, 1955; Bannister and Mair, 1968; and Delia and Clark, 1977); in content (since meanings are socially constructed, two actors may assign different meanings to the same phenomena, see Berger and Luckman, 1966); and in the structure of the component rules (discussed below). Such variability implies that the occurrence of particular forms of communication may be related to properties of the interpersonal logic. but that each system may have a very different logic.

2) The "boundaries" of the interpersonal system are not necessarily coterminous with the individuals' rule sets. Juxtaposed individual rule systems sometimes produce a heap rather than an interpersonal system, and even when an interpersonal system permitting coordinated conversation is produced, it seems appropriate to describe the interpenetration of the individual rules as a matter of degree. For example, a person who wants to play on a particular football team must engage in certain behaviors according to the team's rules which may be prohibited by his/her own personal rules, and the game is precluded. By contrast, the individual and interpersonal rules may interpenetrate so thoroughly in, e.g., a family that members cannot act individually even in the fact of dysfunctional patterns.

3) The interpersonal system lacks a superordinate cybernetic monitor. The "highest" or most comprehensive monitoring agents in the system are at the level

level of the individual, who has to act as if his/her construal of the system extended to the other person(s) involved even though s/he cannot observe their rules for meaning and action. Any dyadic conversation is really a quartet: persons A and B as perceived by A and persons A and B as perceived by B. Laing, (Phillipson and Lee, 1966) has described the complications resulting from "the spiral of reciprocal perceptions."

4) The system is permeable to other components. To continue the argument above, any dyadic conversation is actually and potentially a group. Caplow (1968) among others, has shown that relationships between particular individuals are contextualized by imagined or remembered relationships with others. Further, the dyad may be joined by a third person, whose rules interpenetrate to some extent with their, forming a more complex system. Note that even when the third person is a therapist or social scientist, their inclusion in the system is as another component, not as a superordinate cybernetic monitor.

Like all systems models, we envision the structure of the interpersonal system as regulating its dynamics. Most systems theorists study dynamics as sequential system states, or patterns of organization of components within the system. We are interested in interrelated changes within the rule systems of interacting individuals (e.g., attitude or belief change; increments in cognitive complexity; etc.), but primarily as these affect the forms of communication which eminates from the system. Our focus on conversation leads us to be concerned with the action which individual components within an interpersonal system can produce, and how sequences of such actions reciprocally produced by the various components of a system are organized. This "actional" perspective constitutes an important shift in the conceptualization of systems.

The model is paramorphic because the linguistic units in which it is expressed (sentences and symbols) are not necessarily the materials of actual

thought processes. Human meanings are not always left-brain, digital representations of reality. They may be more right-brain analogical representations taking the forms of images or philological representations. Kelly (1955) notes that constructs need not have linguistic labels for their poles. A year-old child learning to walk can differentiate physiologically the feel of a "balanced" vs "unbalanced" states without verbal labels. In our presentation of the model verbal labels are applied to all constructed meanings as a convenient fiction commensurate with our expository needs.

Causal Forces in Interpersonal Systems

The organization of an interpersonal system is produced by a concatenation of three forces: nomic, logical, and practical (Cronen and Davis, 1978). Nomic necessity consists of the limited powers of individuals (e.g., the limits on information-processing abilities, Miller, 1956) and produces an array of behaviors within which they are free to act as affected by other forces. In conversation, the range of behaviors permitted by nomic necessity is sufficiently broad to permit the efficacious action of other forces: at given instances in the sequence of conversation, persons are able to say a wide variety of things which seldom if ever actually occur and are evaluated as if they ought not to have been said when they do occur. Within the bounds of nomic necessity, logical force consists of those strings of sequential acts prohibited, obligated or permitted by the interpenetration of rule systems such that the act legitimated by one person's rule is the antecdent condition of the other person's rule-governed act, and so on. Given the paramorphic model in which rules are written in an algebraic/logical form, the relative amount of logical force in given interpersonal rule systems may be determined. Finally, practical force consists of the fit between an individual's intentions and the logic of the interpersonal

system, and may be modeled by the practical syllogism (von Wright, 1971).

The four types of interpersonal communication may be explained in terms of various amounts of these forces. Uncontrolled oscillations occur when the logical force is too weak or confounded: there is no coherent sequence of events. Patterns without directional control occur when the logical force is much stronger than the practical force: once a line of action is initiated, it seems to continue under its own impetus. Intangible patterns result as a function of a particular type of logical force which occurs when each individual's rules give him greater latitude of action at each instance in the conversation than the interpersonal rule system can allow. Coordinated management of meaning is possible when both logical force and practical are high and complementary. It is this form of communication which enables persons to meet a variety of personal and interpersonal goals, such as shared tasks, maintenance of self-identity, definitions of situations, etc.

The Organization of Individuals' Meaning

The ancestral term "management of meaning" focuses attention on communicators' construals of events. Without denying the existence of uninterpreted reality, this veiw argues that persons' actions are explained by their meanings, not the events or messages themselves. The substantive claim is that these meanings differ in degree of abstraction (Schroder, et al., 1967) and temporal duration (Schank and Abelson, 1977) and are organized hierarchically (Bateson, 1972) as shown in Figure 1 (see Pearce, Cronen and Conklin, 1977). Specifically, the lowest level represents uninterpreted reality: the sound waves, light waves, and neural firings that constitute messages. The next 2 levels represent states in intrapersonal information processing. Constructs are the cognitive structures which individuals use to give order and meaning to the

world. We assume, following Kelly (1955), that constructs are "personal" and to some degree ideosyncratic to individuals. While an individual can, through role-taking, reconstruct and share important elements of another's construct system, role-taking is inherently imperfect, particularly when crucial constructs are preverbal (Swanson and Delia, 1976). Our usage of personal constructs in this model departs from Kelly's original treatment in this fundamental way: we accept Mischel's (1964) position that constructs do not simply canalize behavior. Rather, Mischel argued, human actors also use them to construct intended goal states and to compare the anticipated outcomes of alternative courses of behavior. Thus individuals use their personal constructs to generate beliefs by assigning phenomena to positions on constructs and to generate goal states by cognizing hypothetical intersections of construct positions (Harris and Cronen, 1978).

Construction systems are the beliefs and purposes produced by constructs, organized into clusters which are hierarchically related to particular beliefs. Studies of person perception have demonstrated that perceptions of a person as a whole are based on perception of his/her attributes, but that once the molar percept is formed, attributes are reinterpreted (Delia, 1976).

"Speech acts" are the relational meanings of messages. They too are social constructions of human actors but at the interpersonal level of meaning (Searle, 1969). Although Kelly did not originally discuss constructs for sorting out and giving meaning to verbal phenomena in the world, Hinkle's (1965) laddering technique for the elicitation of constructs will generate constructs for speech acts such as "asserts-explains," or "insults-compliments."

Episodes are patterned sequences of speech acts with a beginning, internal structuring and end (Harre and Secord, 1972), comparable to Kelly's (1955) "time constructs," which originate at the intersect of those constructs which

define a current situation and terminate at the intersect of constructs which define conditions later in time. Along the time construct are the events to be brought about in order to move from one condition to the other. Kelly's brief treatment of time constructs was limited to plans for individual activity; episodes denote interpersonal activities by specifying patterns of reciprocated speech acts as points along the time construct. Further, episodes may be concatenated, such that the completion of a particular episode functions as the precondition for the enactment of another.

The last level of the hierarchy model is that of "life-scripts" (Berne, 1972) which are patterns of episodes which define central features of the self and models of coherent action.

Rules organize the hierarchy. Constitutive rules operate "vertically" to identify what elements at each lower level "count as" an instance of the content of each higher level. At the interpersonal levels in which meanings have temporal extension, regulative rules describe legitimate and illegitimate sequences of units of lower levels.

The hierarchy model represents persons as systems which are variably engaged. Although persons have the power to construe at all levels of the hierarchy, they do not always do so, with significant consequences. An individual's autonomy increases as he is able to construe at higher levels of the hierarchy. Each level of the hierarchy may be considered as a holon (Koestler, 1967): a system comprised of smaller systems and which functions as a component of larger systems. A holon is autonomous as a whole but controlled as a part of a greater whole. In its "controlled" state, it is able to perform in ways exceeding its autonomous power: a single nerve cell in the brain cannot control it's own firing or think great thoughts, but the brain, which is a systemic organization of these holons, can do both. In the same way, a person who construes only at

the level of speech acts has less freedom of action at that level than those who construe at the level of peisodes or life-scripts.

The hierarchy model extends the concept of cognitive complexity beyond that employed by Kelly and his followers. Looking at the vertical axis of Figure 1, the lower levels reflect complexity in terms of differentiation (Level 2) and integration (Level 3). However at Level 4 (speech acts) we encounter the ability to construe interpersonal phenomena and at Levels 5 and 6 the ability to construe interpersonal relations with higher degrees of temporal extension. If we consider the regulative rules that emerge horizontally, we encounter the ability to organize construed meaning into guidelines for individual action.

Rule Contents

The hierarchical organization of an individual's meanings has important implications for both the content and structure of that person's rules. Rules are organizations of meaningful units. The work of Kelly (1955) and his followers has sensitized us to the fact that meanings are socially created and to some extent ideosyncratic to individual experience. Individuals differ not only in the kind of constructions they use but also in the complexity of their organized meanings (Crockett, 1964). Individual differences in type and complexity of social constructions affect the ability to achieve coordinated management. The specific products of the variation in complexity include disagreement, inflexibility and poor role-taking.

Disagreement occurs when the content of the juxtaposed rules is incompatible. Watzlawick (1976) described coordination problems resulting from a disagreement on the regulative episode rules regarding courtship between American servicemen and English women. Both construed the courtship episode as a multi-step process moving from minimally to highly intimate activities, but there was a culturally-

based disagreement about the ordinal position of kissing in the sequence (and a correspoiding difference in the constitutive rules regarding the meaning of a kiss). The Americans defined kissing as not very intimate and placed it early in the courtship sequence, while English women defined it as highly intimate and placed it well along. A recurring coordination problem occurred in which the English women were forced to decide how to handle these "forward" Americans: whether they resisted the kiss and were thought "cold" or responded to it with other highly intimate behaviors and were thought "easy," meaning was mismanaged.

Inflexiability occurs when a specific speech act is made obligatory or prohibited regardless of episodic contextualization. This is, of course, the structure of deontological ethical codes such as the "ten commandments" or the "articles of war" involving aid and comfort to the enemy. Flexibility in rule sets is more like Fletcher's (1966) "situation ethics" in which morality depends on the episode. Inflexibility reduces the ability to achieve interpenetration of rule sets in which there is disagreement. Several cultures have developed comparable episodes of "verbal dueling" which are inflexible because of the presence of exclusionary deontic operators (e.g., prohibited; obligatory) in the episode rules. Coordination between members of these cultures is virtually impossible because these inflexible episode regulative rules differ in content. For example, a 17th century Puritan's rules prohibited the use of profane, scatological or sexual references in conversation: verbal duels were well modulated, respectful and filled with scriptural allusions. Urban American Blacks "Playing the Dozens" are obliged to use sexual and scatalogical content. The surface structure is an exchange of insults involving 'yo' Mama . . . " and various improbable activities; the episode is a contest of skill in which the literal meaning of the statements is specifically not to

be understood as the intent of the message (Mitchell-Kerman, 1972). Young Turkish males' verbal duels have an obligatory rhythmic structure (Dundes, Leach and Ozkok, 1972), not found in comparable episodes of Puritans or Blacks. The reader with a penchant for the absurd may amuse himself by scripting conversations ensuing from an attempt to coordinate a cross-cultural verbal dual with each participant clinging to his or her construction of the meaning of the other's acts in the full confidence that one's own meanings are "right."

Even if an individual desires to take the role of the other in order to coordinate meanings, the ability to engage in role-taking is limited by the individual's cognitive complexity (Delia and Clark, 1977). Thus, an individual who has only a few available constructs for forming interpersonal impressions will have little success in understanding communication from the viewpoint of another individual (Hale and Delia, 1976). This limitation on role-taking ability extends to constructions above the level of impression formation. At the speech act level, for example, Cronen and Pearce in an unpublished factor analytic study, found that debaters distinguished among competitive, cooperative, and hostile arguments whereas these formed a single factor for a sample of nondebaters. Forgas (1976), using multidimensional scaling, has shown that housewives organize episodes in fewer cognitive dimensions than do working wives or students. In some domains of experience the individual may be unable to organize meaning at the episodic level. Inability to organize at episodic level is evidenced in the behavior of a novice chess player whose each move is predicated only upon the position of pieces at that time and an immediate goal such as to capture or avoid capture. A chess master organizes his whole game into opening moves, middle game, and "end game."

Limitations on the individual's ability to take the role of the other and

behave appropriately have serious consequences. A disagreement on meaning need not be a permanent obstacle to coordination. Two individuals need not agree on how to assign meaning but may still coordinate if each understands the others meanings and can adapt messages accordingly (Kelly, 1955). However if superordinate meanings prohibit adaptation or if cognitive structure is insufficiently complex to permit role-taking the system loses its capacity for readjustment and renewal.

Rules: Structural Components of the Logic of Interpersonal Communication

Considerable conceptual confusion surrounds the concept "rule." Although "rules" have been cited as explanatory concepts in many disciplines for a long time (Collett, 1976), there have been few attempts to determine how they should be written (Hymes, 1972). Various rules researchers have used grammatical rewrite rules, imperative statements, and probability descriptive sentences as models. We propose an algebraic/logical formula for writing rules based on the findings of five literatures, each of which suggests an element which must be included in the formal structure of rules for meaning and action.

First, the literature on situated actions implies that rules must include a relationship between antecedent conditions and specific behaviors. Argyle's (1976) review of "trait" and "situational" determinants of behavior demonstrated that predictions of behaviors must take situations into account, although individual's have varying ability to enact behavior appropriate to changing situations (Snyder and Monson, 1975; Endler and Hunt, 1968), and cultures differ in the significance attached to situational definition (Argyle, Shimoda and Little, 1976). The clinical literature stresses the importance of linking actions to antecedent conditions by describing those who behave regardless of situational distinctions as psychiatrically disturbed (Moos, 1968, 1969; Rausch,

et al., 1960).

Second, the antecedent conditions of actions are at different levels of abstraction. Most of the definitions of situations cited in the anthropological, clinical and social psychological literature are molar, such as Bateson's (1972) discussion of the meta-level meaning "this is play" which contextualizes each specific behavior. However, coordination also requires the ability to articulate one's own act with the preceeding one by another person at the same level of abstraction, as shown in the studies of sequential conversation (Stech, 1978) and the development of communicative competence in children (Mueller, 1971; 1972; Baker, 1942).

Third, the literature on communicative functions implies that communication is used pragmatically and thus rules should indicate the purpose or intended consequence of specific acts. Bruner (1975a, 1975b) argued that one cannot understand the communicative system of a child without taking into account the purpose for speech acts. Similarly, Glucksberg, Krauss and Higgins (1975) concluded that idealized rule systems divorced from pragmatics are inadequate to account for communicative performance.

Fourth, the linkages between antecedents and acts and between acts and consequents are variable. Both linguistics and anthropological literatures contain descriptions of sequences which are exclusive (obligatory or prohibited) or optional. These descriptions suggest the use of deontic operators (von Wright, 1950), one form of modal logic.

Finally, a variety of literatures (e.g., Searle, 1969) differentiate two types of rules. Constitutive rules designate the meanings of particular events, or what X "counts as." Regulative rules designate sequences of action, or, given X, what should be done next. The distinction is a useful one for several purposes but our conceptualization of an individual's rules as a system in-

dicates that they are not ultimately different. We shall show how each if a rewriting of the other, with the real logic coming from the form and content of the system itself.

Based on these literatures, we propose the following symbolic representation of the primative form of a regulative rule:

$$rR \equiv \left[A \supset (Do\ (Actn))_{1...n} \right] \supset C$$

where: rR = regulative rule

A = antecedent conditions construed as existing prior to the actor's behavior. Antecedent conditions may include the speech acts and episodes, as well as time, place, role relationships, etc.

$\supset$ = "if . . . then"

Do = deontic operator. The operators of deontic logic include "obligatory," "legitimate," "irrelevant" and "prohibited."

Actn = Action. Class term for both specific acts (SpAct) and representations of sequentially reciprocated speech acts called episodes (Ep).

C = Consequent conditions. These are anticipated outcomes which the person expects to follow his act given the specified antecedent conditions. Consequent conditions may include speech acts and episodes as well as other forms of content and relational outcomes.

This symbolism may be interpreted as the practical syllogism (von Wright, 1971) as modified by a rule laid on its side (Pearce, 1976) such that it combines temporal sequence, telic explanation and deontic reasoning.

This formal structure for a rule differs from any previously described by including a consequent condition as an integral component. This produces two advantages. First, it enables the analyst to specify the practical force--that for the sake of which--the rule is constructed. If the consequent is not specified, it is impossible to assess the rationale for or critique the performance governed by a rule. Second, specifying the intent permits explanation

of how human actors can monitor the effects of the rules they follow (feedback). By comparing outcomes with intentions, a person may discover that his rule is dysfunctional, and may reconstruct it. Under optimal conditions, this process leads to an improvement of the logic of the system.

The praxis os rule-governed action requires the construal of meanings and accurate role-taking. These characteristics are described in a hypothetical example: an employee construes his antecedent condition as a "committee meeting," in which his goal is to have the boss identify him as a "good employee." By role taking, the employee imaginatively creates the interpersonal system comprised of the interpenetration of his own and the boss's rule sets. He believes that for his boss a "good employee" in a committee may perform two kinds of speech acts: "asking questions" and "agreeing" while bad employees try to "answer questions" and "assert." The employee thus is guided by a simple rule:

$$\left[\begin{array}{lll} \text{committee} & \text{(permitted} & \text{(ask questions))} \\ \text{meeting} \supset & \text{(permitted} & \text{(agree))} \\ & \text{(prohibited} & \text{(answer questions))} \\ & \text{(prohibited} & \text{(assert))} \end{array}\right] \supset \text{considered good employee}$$

Notice that two forms of speech acts are legitimate ways of achieving the consequent and two other forms of speech acts are specifically prohibited.

There is reason to believe that such rules have ontological status rather than being just convenient fictions for theorists. Research by Berger, et al. (1976) may be reinterpreted as supporting the existence of this rule among midwestern Americans. If, during the first few minutes of an initial conversation:

$$\left[\begin{array}{lll} \text{presence of other person, availability for conversation; reciprocated orientation} \supset & \text{(obligatory} & \text{(introduce self))} \\ & \text{(permitted} & \text{(give brief demographic information))} \\ & \text{(permitted} & \text{(ask for demographic information))} \\ & \text{(prohibited} & \text{(insult))} \\ & \text{(prohibited} & \text{(change topic))} \end{array}\right] \supset \text{elicit some demographic information; keep conversation going}$$

This is a very specific rule such that an appropriate response is narrowly defined and the speech act itself constitutes an agreement to keep the conversation going. If the rule is violated, it is a token of the rejection of the conversation.

The forgoing examples consisted of rules in which the Action (Actn) component is comprised of specific speech acts, symbolized SpAct. However, a second form of the primative regulative rule is required to account for the social construction of action sequences which the individual has come to recognize as identifiable units of experience. These cognitive representations of sequences we have termed episodes (symbolized: Ep). Episodes are action sequences in which the antecedent and consequent conditions are linked by reciprocated speech acts by more than one person (e.g., a three-utterance turn-taking cue as described by Sacks, 1967, or a complicated pattern of moves in one of the "games" described by Berne, 1964). As a matter of fact, persons do not always construe sufficiently broadly: complex construction of episodes is a mark of sophistication. Chess provides the analogy: a novice player thinks in terms of short sequences of moves (e.g., "my piece is threatened, so I'll move it to avoid being captured") while an experienced player punctuates the game into relatively discrete segments (the opening, middle game, end game) in which the tactics and strategy are different.

There is reason to believe that the construal of a sequence of events through time is demonstrable (in Harre's, 1972, sense of "realism") rather than consisting simply of a convenient fiction. Recent work in cognitive psychology (Tulving, 1972; Tulving and Thompson, 1973; Watkins, 1974; Watkins and Tulving, 1975) has identified episodic (e.g., sequential) structures in memory. "The memory trace of an episode is unique and is laid down in a cognitive system that is in some sense different from the semantic memory system. . ."

(Tulving, 1976). Schank and Abelson's (1975, p. 3) work on artificial intelligence has revolved around the concept of "scripts," defined as "a structure that sensibly describes an appropriate sequence of events in a particular context. A script is made up of slots and requirements on what can fill those slots."

The theory developed here postulates that people can construe sequences of events as episodes, represented by time constructs, the sequences in which are described by regulative rules. Thus a rule which specified the performance of an episode would be expressed symbolicly as

$$\left[A \supset (\text{Do} \quad (\text{Ep}))_{i \ldots n} \right] \supset C$$

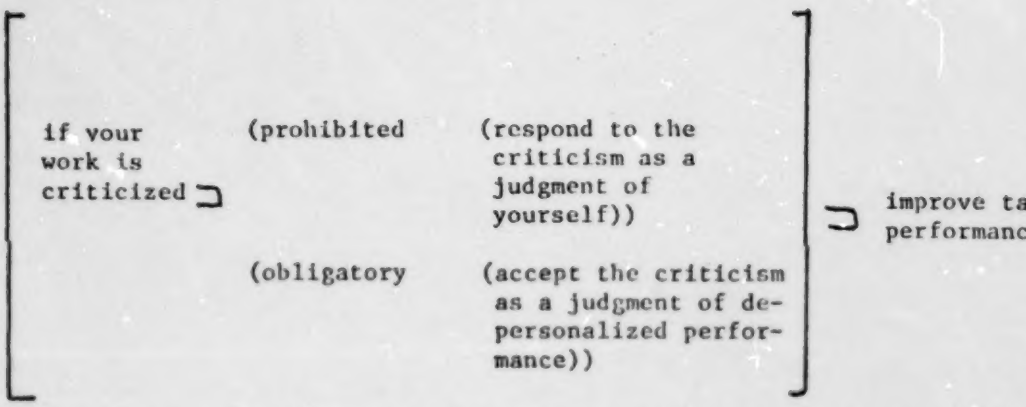
where: Ep = A time construct representing an episode of reciprocal acts

where as rules that specify particular speech acts would be symbolized

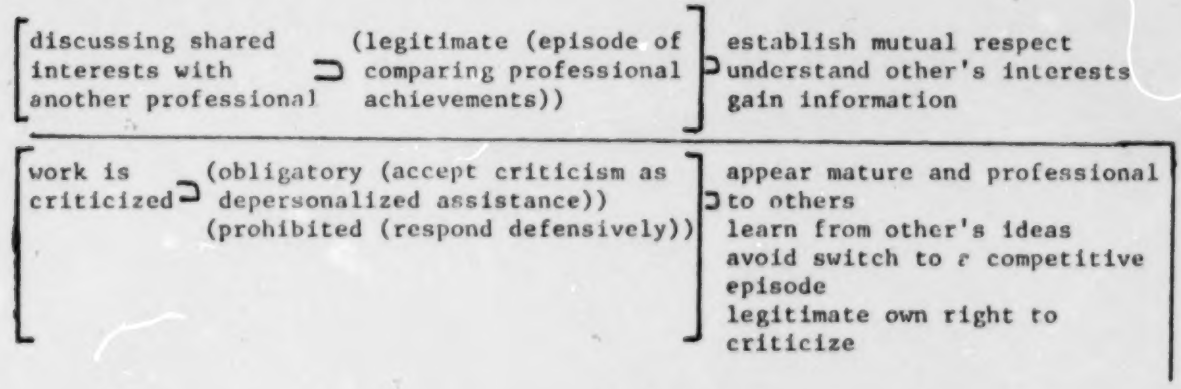
$$\left[A \supset (\text{Do} \quad (\text{SpAct}))_{i \ldots n} \right] \supset C$$

As in the case of the case of the act rule, one or more episodes may be perceived as obligatory, permitted or prohibited ways of briding construed antecedents and intended consequents. The function of episode rules is to conceptualize and organize subordinate act rules which are linked to specific positions along the time construct or which remain in force throughout the episode.

The first conversation between persons provides an example of the relationship between episode rules and act rules. The first approximately four minutes of an initial conversation among mid-western Americans has little variation in structure and repetitive content, and is governed by a limited set of rules. At the end of this time, some sort of decision point is reached in which the conversation may be terminated or directed in a number of different ways. The ensuing episodes may be very technical or task oriented, in which case one of the acts rules might be:

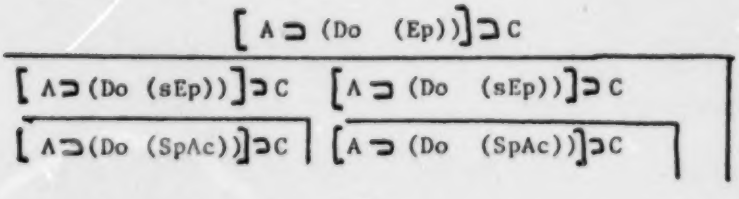

if your work is criticized ⊃
(prohibited (respond to the criticism as a judgment of yourself))
(obligatory (accept the criticism as a judgment of depersonalized performance))
⊃ improve task performance

This rule is applicable only within the episode of professional information exchange, not within an episode of initial interacting among strangers. This contextualization of a speech act rule by an episode rule can be shown by using the symbol ——┐ employed by Brown (1969).


discussing shared interests with another professional ⊃ (legitimate (episode of comparing professional achievements)) ⊃ establish mutual respect
understand other's interests
gain information
work is criticized ⊃ (obligatory (accept criticism as depersonalized assistance))
(prohibited (respond defensively)) ⊃
appear mature and professional to others
learn from other's ideas
avoid switch to a competitive episode
legitimate own right to criticize

where: ——┐ = contextualized by

In complex representations of experience, the individual may organize the main episode into subepisodes with appropriate speech acts within them. For example, the episode of comparing professional achievements may be organized into alternating sequences of serious talk and joking. This kind of organization could be symbolized:



The forgoing expression specifies one speech act rule contextualized by each of two subroutines (sEp) within a single larger episode.

The individual may also contextualize a specific episode as an aspect of a life script (Ls). This could be similarly expressed with the use of the contextualizing symbol:

$$\frac{Ls}{\left[A \supset (Do \quad (Ep))\right] \supset C}$$

The concept of hierarchical conceptualization is a key one for understanding conversation. Consider a conversation in which one actor is guided by this rule which he/she presumes to be shared by Other:

$$\frac{\left[\begin{array}{l}\text{talking with close friend in private} \supset \text{(legitimate (episode of self disclosures))}\end{array}\right] \supset \text{intensity relationship catharsis}}{\left[\begin{array}{l}\text{other disclosures} \supset \text{(obligatory equivalent (self-disclose amount))} \\ \qquad\qquad\qquad\quad \text{(prohibited (depricatory joking))}\end{array}\right] \supset \text{demonstrate trust in other obtain a reciprocal disclosure}}$$

Assume further that during the disclosure episode one actor hears a response that is not a reciprocal disclosure as expected but rather one that seems to be a depricatory joke. This situation gives rise to the common gloss: "but he could not have meant that," which is expanded to: given the episode rule assumed to be in effect, the apparent meaning is prohibited, implying that some other, less obvious meaning was intended. A cognitive search for other meanings follows, resulting in a satisfactory account or in a decision that the episode rule has been violated such that a new set of deontic sanctions are in force (Boynton, 1977). This process explains much joke-work and the mechanism for negotiating changes in relationships.

Constitutive rules specify how one construction "counts" in terms of

another. For example, the implicative linkage between the construct "free-totalitarian" and the construct "humane-cruel" may unite the superordinate construct pole of "cruel" with the subordinate construct pole "totalitarian." In this case the imposition of totalitarianism counts as "cruelty" for the construer. Similarly, poles of the construct "real insult-verbal duel" may be linked to specific speech behaviors so that in Black street culture the expression "your Mama eat dog do" counts as "verbal dueling and not as a real insult if expressed in the context of the game "Playing the Dozens." To carry through the examples described above, the occurrence of self-disclosure about 5 minutes into an initial conversation "counts as" a request for an episode of "exchanging confidences." If it is followed by criticism of task performance, this constitutes a rejection of the proposed episode in favor of "performance instruction."

Constitutive rules are statements of definitional relationships between construed elements at different levels of the hierarchy model. The primitive form of a constitutive rule may be expressed symbolically as:

$$\frac{Mk}{A \supset [M_i \rightarrow M_j]}$$

where: A = antecedent condition

M_i = meaningful construals at abstraction level "i"

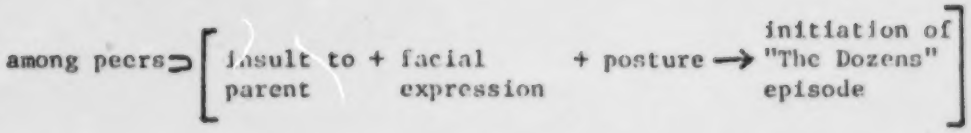
M_j = meaningful construals at abstraction level "j"

$\rightarrow$ = "counts as"

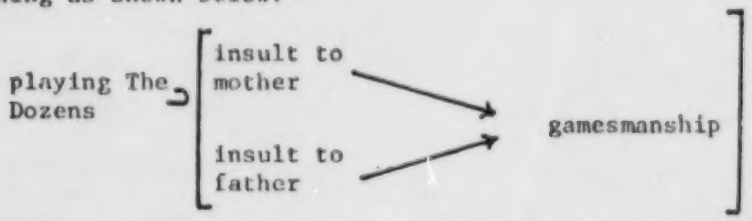
$\longrightarrow$ = "in the context of"

Mk = meaningful construal at abstraction level K, where K is higher than i or j

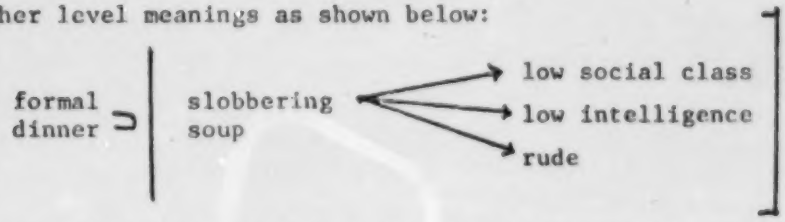
Derivations of the primitive form may be used when the consequence of construals at one level "count as" meaning at another level. For example:



Several construed meanings at one level may "count as" the same higher level meaning as shown below:

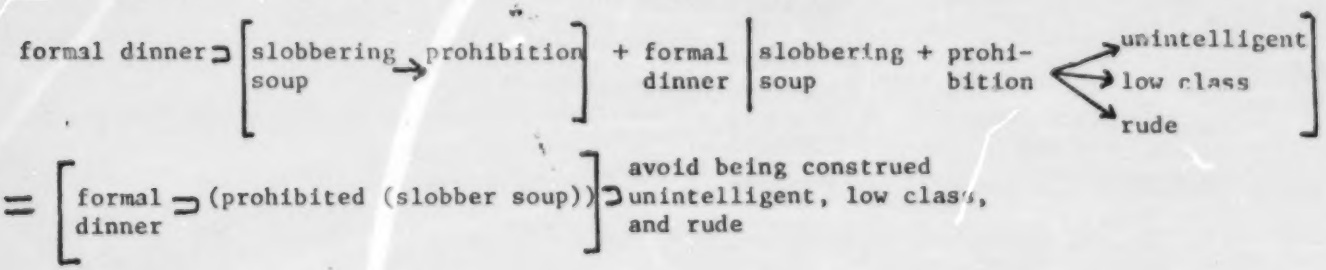


A single construal at one level of abstraction may "count as" a number of higher level meanings as shown below:



Regulative rules can be thought of as cognitive re-writings of constitutive rules. Regulative rules are organization of meanings structured so as to locate and guide actions that bridge antecedent situations and intended consequents.

The horizontal structure of a regulative rule may be seen as the combination of two constitutive rule as shown here:



The reader should notice that the deontic operators are presumed to be social constructions. Thus they function like modal terms as <u>distinct</u> from probability terms. Probability terms label the mathematical odds of one phenomenon following another (Toulmin, 1958).

Differentia for Rule Construction

Persons may construe rules in a variety of ways. For example, rules may differ in the complexity with which social situations are represented; they may differ in the amount of temporal extension encompassed between antecedent and consequent conditions; they may obligate specific behaviors or permit many; they may take into account only one or multiple outcomes; and they may be isolated patterns of meaning or highly intergrated into cognitive systems. These five differentia each take the form of a continuum describing how the rule is construed and each affects the functioning of interpersonal communication systems.

Socially insensitive to complex construction of antecedents. The organization of social action is usually predicated upon the individual's ability to make sophisticated sense of the conditions antecedent to action. An extensive review of literature led Argyle (1976) to conclude that antecedent conditions ("situation" designed S in Argyle's terminology) are more powerful predictors of social behavior than are personality measures. This same conclusion was reached by Mischel (1977). Of course not all people make the same judgments about the social antecedents to action. Individuals differ with regard to the complexity with which they construct the nature of social situations. Failure to construe essential characteristics of situations will lead to the inability to select those actions which will produce desired outcomes. Compelling evidence comes from Delia and Clark (1976) study of the persuasive ability of children. Their results clearly show that more complex constructions of the antecedent conditions are related to more effective situation specific selections of speech acts. We illustrate by reference to the common situation studied by Alvy (1973) in which a child's ball hits a neighbor's window and the child comes to ask for the ball back. A more complex construction of the

situation is represented in this rule:

[ball has hit neighbor's window, neighbor has come to the door and asked "is this yours?", neighbor looks and sounds angry] ⊃ [(obligatory (apologize)), (legitimate (cry, ask for ball)), (legitimate (look downcast and sweet, ask for ball)), (prohibited (be demanding))] ⊃ get ball

A more simplistic construction of the situation seems, according to Delia and Clark's (1977) research to result in the use of a rule which can be represented as this one:

[ball has hit neighbor's window, neighbor has come to the door and asked "is this yours?"] ⊃ [(legitimate (say it is yours and ask for it back))] ⊃ get ball

Notice that the second example lacks consideration of the relational dimension of interpersonal meaning and focuses only on the content features of the situation (Watzlawick, Beavin and Jackson, 1967). As the individual matures he or she should be able to construct the nature of antecedent conditions so as to take into consideration many dimensions of relational meaning. Deutch and Kaplan (1976) identify five common dimensions of relational meaning including hostile-friendly- status same-status different, formal-informal, intense-superficial, and topic important-topic unimportant.

At one extreme end of the continuum we would place rules that exhibit complex constructions of both content and relational meanings. At the opposite end we place rules the exhibit extreme insensitivity to the situation at hand.

When individuals employ rules that tend toward social insensitivity antecedent conditions there will be an increased tendency for unpredictable oscillation to occur instead of systemic functioning. If an individual fails to base

his/her rules upon a sufficiently complex account of the situation, then he or she is likely to produce an act which Other deems inappropriate if enigmatic. Other would then likely produce a response unexpected by the first actor as in the example below:

Neighbor: (showing anger) "Is this your ball?"

Child: (Not noting relational aspect of message) "Yes it is. Give it back, it's mine."

Neighbor: (Interpreting child's act as impudent in this context) Give it back? This ball hit my window. Do you know that?

Child: (Noting only refusal to return ball) "I'll tell my Daddy if you wont' give it back!"

Neighbor: (Reading child as impudent and now threatening) "Get out of my yard kid!"

Static to temporally extended construction. Our observations suggest considerable within and between subject variance in the temporal extension of construed elements. In an unfamiliar situation the novice actor may guide his behavior with only what we have identified as "act rules," which specify only a triad of events: antecedent conditions, the actor's own speech act(s), and intended consequents. The more experienced actor may, however, by operating with episode rules, employing time constructs which specify a temporal continuum of reciprocated acts.

It is important to remember that what an outside observer identifies as a recurrent temporal pattern may or may not be construed episodically by the participants themselves. Recall that the conjoining of two sets of act rules may create a repeated pattern of events that is outside the control of the participants. When both parties operate with act rules, the result may be catastrophic to both. Consider the persons in the U. S. and the U.S.S.R. who are the ultimate deciders of when and if their country will launch a thermonuclear attack. In a scenario reminescent of the "Cuban Missle Crises," each may follow a regulative

act-rule such as "if threatened, it is obligatory to make a more serious threat so as not to invite attack." Now suppose that one of these persons performs an act which his constitutive rules defines as neutral but which the other perceives as a threat. If each follows the regulative rule, a symmetrical escalation leading to war--which each sincerely sought to avoid--is "inevitable" (that is, the logical force of the content of the rules makes it necessary). The ability to construe episodically allows the participants to critique such rules and negotiate a shared episode rule permitting more control over the sequence of acts.

The patterns of human action which exist in a marriage, a formal organization or a nation may be extremely complex and take years or generations to emerge. Few persons have sufficient time, memory capacity or data base to perceive patterns on this scale. As a result, it is an open question whether any one is acting at a given time with a sufficiently broad enough construal. However research has specified a number of instances of inadequate temporal extension. Munuchin (1967) noted that disorganized families in U. S. urban slums exhibit highly patterned and predictable sequences of behavior, the pattern of which they are unaware. Alcoholics (Carson, 1969), repeat a syndrome the outcome of which they deplore but cannot avoid since--unaware of the sequential structure--they cannot perceive it in the making. Walton's (1969) intervention strategy as an organization conflict consultant consists of teaching his clients to perceive broad cyclical patterns of conflictive behavior.

Interaction in which one person can construe in much larger units than others are particularly interesting. To some extent, the person who can detect the larger patterns has a great deal of control over the other: he can perceive unwanted episodes in their early stages and preclude them by violating a rule or he can manipulate the other into behaviors of his own choosing. One couple

we observed consisted of a woman happy in a "traditional" role and a husband intent on increasing her ability to be independent. Following her rules for being a good wife, she would fix sumptuous meals, etc. in a pattern which made him the focal point of her life. She expected him to accept these services appreciatively, but he often--deliberately--did not. To have responded "appropriately" would have instituted a pattern of dependency and altercentrism which he wished to avoid. His refusals created crises in the relationship: we are unable to tell if she has made a structural change (by perceiving this pattern episodically) but she has changed her behavior by becoming productively selfish.

A very common, though less benevolent example of asymmetry in temporal construal may be found in the well rehearsed "sales pitch" which companies prepare for their door-to-door salesmen: salesmen--but not the customer--"know" the episode which is to occur. The salesman brings off the episode by producing behaviors which fit into the act rules of the customer which guide him to respond in ways which can be capitalized upon by the salesman. In one sales scenario (Brainard, 1973), the salesman is instructed to be sure that both husband and wife are present in the room. Early in the conversation the salesman asks the husband "isn't it worth a few dollars a week to save your wife a lot of heavy work, isn't she worth that?" The author of the scenario assumes that when the husband asked to affirm that his wife is worth a few dollars, unqualified affirmation is obligatory to avoid the wife perceiving her husband as unfeeling. The scenario also assumes the existence of a constitutive rule which obliges the customer to act consistently so that when the salesman later shows that the vacuum can be purchased for a few dollars a week and reminds the customer of his earlier affirmation, the purchase will be logically forced. A wise buyer e.g., one who construes episodically, would

anticipate the ways the salesman might use responses to such questions, thus constructing a representation of the salesman's episode and avoiding being manipulated. When only one actor is able to engage in accurate role taking and operate with temporally extended episode-rules, there results an asymmetry of power such that control of the system lies with one component and is not shared.

Functionally Autonomous to Multifinal Constructions. Allport's (1932) concept of functional autonomy may be extended to episode and act rules which were originally developed to achieve some end state, but which over time become well-rehearsed patterns which are performed for their own sake. Allport's example was of the penurious behavior of an immigrant which persists even after he becomes affluent. Pressed for an account, he might simply say "because it's the thing to do" without referring to an end state. The well-worn joke about the 80 year old man who still flirts with pretty women even though he can't remember why features functional autonomy.

At the opposite end of the continuum are multifinal rules which have been constructed in a way that accounts for the variety of ends which may be produced by speech acts and episodes, such as content meanings, relational meanings, instrumental purposes (Watzlawick, et al., 1967). Rules which do not take account this variety of implications are likely to bring about chaotic, unpredictable oscillations of events. Consider conversational patterns produced when one person follows this nonmultifinal rule limited to the content level:

$$\left[\begin{array}{l}\text{if asked my}\\ \text{opinion about X}\\ \text{in any situation}\end{array}\right] \supset \left[\begin{array}{l}\text{(obligatory (give full}\\ \text{complete lecture on X))}\end{array}\right] \text{ and } \supset \left[\begin{array}{l}\text{the other will}\\ \text{learn and ask}\\ \text{questions to in-}\\ \text{sure understanding}\end{array}\right]$$

Our observations of persons whose rules approximate this (some academics, one person institutionalized as mentally retarded) indicate that others respond in unanticipated ways based on concomitant but unconstrued relational and situa-

tional meanings. They are likely to attempt to avoid a one-down relationship or to switch the topic. More competent social actors develop rules accounting for relational as well as content meanings. This requires role-taking ability: one must know that others' constitutive rules define "being lectured to" as a "put down" in status and as formal rather than friendly as well as being informative.

Rules that tend toward functional autonomy are also dysfunctional because they do not facilitate critique of existing structures. Adjustments may be made in system logic based on feedback resulting from the poor fit between the actual and intended consequents of acts and episodes. No mechanism for the discrete analysis of feedback exists in functionally autonomous constructions, however. Assume that the act "lecture" is followed by an act intended to restore status equality: "look, George, don't treat me like a fool, I've been teaching nuclear sculpture for ten years. . . ." If the rule is functionally autonomous, the actor may examine the effects of his "lecture" and conclude: "I gave him the information he wanted and now he's telling me how long he's been teaching? What's wrong with <u>him</u>?" Allport's observation that functionally autonomous patterns are extremely difficult to alter holds true for rules as well.

<u>Ritualized to Equifinal Constructions</u>. This continuum describes the range of legitimated speech acts or episodes between an antecedent condition and a desired outcome. Ritualized constructions specify only one or a small range of acts; equifinal rules describe many acts or episodes, all of which lead to the same outcome. Ritualized episodes include military or religious ceremonies or the construction of routines such as "assignment-giving" in businesses, in which only a narrow range of responses are legitimate (O'Brien, 1978). Equifinal episode and act rules include strategic or discretionary choice about ways to achieve objectives. For examplek if a barroom pickup is perceived as

ritualized, then a disruption--e.g., a negative response from the target person--is an insurmountable obstacle: the would-be playboy has no alternatives except to desist or initiate the same sequence again. However, construal of the episode as equifinal would suggest the selection of an alternative strategy.

When social or family episodes are highly ritualized the relationship attains control at the cost of rigidity and thus frangibility (Crozier, 1964). Assume that a husband and wife decide weekend plans following this highly ritualized episode rule:

$$\left[\begin{array}{l}\text{Friday}\\ \text{night and}\\ \text{no plans}\end{array} \supset \begin{array}{l}\text{obligatory } (H_z;\ W_b;\ H_c:\ W_d:)\\ \text{prohibited (any other sequence)}\end{array}\right] \supset \begin{array}{l}\text{an agreed upon}\\ \text{plan}\end{array}$$

Only performance of act "a" by the husband permits the wife to perform "b." If she performs any other act, the husband's act "c" is prohibited and the episode breaks down in confusion ("what are you trying to do?") or recrimination ("I hate it when you. . .). The couple can still recover and reach a decision if the episode rule exhibits equifinality so that any of several sequences may be performed, such as:

$$\left[\begin{array}{l}\text{Friday}\\ \text{night and}\\ \text{no plans}\end{array} \supset \begin{array}{l}\text{(permitted (act sequence a,b,d))}\\ \text{(permitted (act sequence d,e,f,g))}\\ \text{(permitted (act sequence h,i,f))}\\ \text{(prohibit (act sequence x,y))}\end{array}\right] \supset \begin{array}{l}\text{an agreed}\\ \text{upon plan}\end{array}$$

Ritualization robs the relationship of non-summativity because variation in any aspect of performance produces a break-down of the whole episode. Equifinal construction permits coordinated management to achieve actors' purposes in spite of variability. The ability to construct equifinal rules is of course limited by the cognitive differentiation (number of available constructs) of the actors. If the actor can only sort-out a few types of speech acts, he or she will be unable to construct many alternatives in rule form.

Isolated to Hierarchically Integrated Construction. This continuum differentiates episode rules and act rules which are highly integrated into the cognitive systems of actors by constitutive rules from those which are isolated organizations of construed meanings. A number of researchers have demonstrated that persons vary in the extent to which their cognitive system is interconnected (Hinkle, 1965; Schroder, Driver, and Streuffert, 1967; Crockett, 1965; Rokeach, 1960). Our argument is that the same hierarchical integration applies to the construal of the communication system as well. Isolation occurs when two rules which are logically linked by their content are perceived as independent. For example, a person's rules for "good employee" (positive affect) may be logically intermixed with those for "bootlicker" (negative affect) such that an internal conflict is structured. Isolation permits the reduction of the conflict internally, but sets up the opportunity for the person to be perplexed or infuriated by the responses of others to his behavior.

Hierarchical integration is related to the ability of the system to adjust and reorganize. However, the relationship is Janus-faced. Integration facilitates critique of rules, permitting them to be perceived in larger contexts, but to the extent that the life scripts include prohibitions and obligations, readjustments may be precluded.

The consciousness raising function of social movements may be explained as efforts to break down the isolation of episode and act rules from life scripts to facilitate critiques of those rules. The method is that of teaching members new constitutive rules with which alternative regulative rules may be constructed. Women's consciousness raising groups define waiting for a man to open a door or cooking elegant dinners as aspects of life scripts that degrade them. The constitutive rule creates the hierarchical relationship of episode-rules and act-rules to life scripts which gives actors the ability to critique them from

an abstract vantage point and provides a rationale by which they may decide which rules they desire to bring to the creation of an interpersonal communication system. Lower level constitutive rules may also be related to higher order life-scripts via constitutive meta-rules: a well-indoctrinated feminist would have to learn that the constitutive rule "arguing with men counts as unfeminine" itself counts as meaning construal associated with a degrading unliberated life script.

LOGICS OF CONVERSATION

The "actional" perspective on the interpersonal system imposed by our interest in conversation directs attention to systemic constraints on sequences of messages and meanings alternately produced by the communications. Rather than focus on the internal dynamics of the system itself, we are interested in what and what variety of forms of conversation can be produced by interpersonal systems with particular content and structural properties. Note that we are not interested in predicting a specific message which might be made by any given person: consistent with our assumptions about the communication process, our focus is on the organizational pattern of sequential messages.

The juxtaposition of rules having the form described above creates an array of potential lines of action because the rule-governed act of each person is interpreted (by the other's constitutive rules) as the antecedent condition of the other's regulative rules, which invoke some deontic force to a subsequent action, which the first interprets as the antecedent condition of one of his own regulative rules, etc. This interpersonal interlocking or meshing of rules to produce lines of action is illustrated in Figure . Each interpretation and deontic-operator-plus-subsequent-act may be viewed as a decision point in the development of the line of action: if the act is uninterpretable (e.g., no relevant constitutive rule) or is the antecedent condition of no

regulative rule, the line of action stops; if there is an unambiguous interpretation and a straight-forward regulative rule, the line of action continues with high logical force; and if there are several interpretations (an multifinal constitutive rule) and a complex regulative rule, logical force is low and any of several lines of action may follow.

The model incorporates feedback when the speech act of one actor is compared to the intended consequent of the other. Unpredicted responses may lead to a renegotiation of the contextualizing episode. For example, a teenage boy at dinner may make a request such as "can I have the car tonight?" The unexpected responsive act "how's the soup?" indicates to him that his parent does not want to continue the episode of "who gets the car" because the unexpected response seems to have no place in the boy's construction of a "who gets the car" episode. This model has demonstrated important heuristic value as a way of analyzing troublesome episodes in family relationships (Harris, 1978; Cronen, Pearce and Harris, in press) and in formal organizations (Harris and Cronen, 1978).

It is important to recognize that the logic is field dependent in both form and content. The content of rules comes from individual construed meanings at various levels in the hierarchy (see Figure 3). The nature and complexity of construed meanings is not a personality trait but a function of individual experience in specific domains of action (Crockett, 1964; Delia, 1976). Similarly, the form of rules may vary from one domain to another. A dyad may typically use ritualized rule forms when discussing child discipline, but equifinal rules when working out family finances. The implication we draw from the field-dependence of rules is that the theorist and therapist should not begin with the assumption that a dyad is a system. Instead the dyad under study could be thought of as a set of systems with unique sets relevant meanings rules structures, and logics for the various episodes in which it attempts the coordination of

meanings.

The value of this logic is dual. By describing the rules in a specific situation, it is possible to determine what forms of social interaction may or may not occur given those rules. Observations of the actual patterns of behavior which occur may then be interpreted as indications of the redefinition of or conformity to the logic of conversations, with considerable implications for the assessment of individual's ability and for the evaluation of the efficacy of particular communication strategies in the construction of social reality. By describing the formal properties of rule systems and relating them to the forms of communication which can be produced by them, it is possible to determine which features in a rule system are most important for coordination. In the following section, we attempt to articulate these relationships, ending with an array of testable hypotheses.

POSTULATES, AXIOMS AND THEOREMS

The description of the interpersonal system permits axioms to be derived which describe relations among system products and systemic properties. The axiomatic nature of these statements must be qualified because the relation between holonic components is not always or completely systemic and because the system is not deterministic. These qualifiers are reflected in the operative terms of the system: rather than stipulating directional, necessary linkages between concepts, these axioms indicate the system products and components which tend to covary, although the extent and degree of probability of the relationship is an empirical rather than a formal question.

This ambiguity stems from two sources: the nature of the interpersonal system which produces a varied amount of practical and logical force, and the unique characteristics of humans as powerful particulars. We stress, following Harré, that humans do not have to do all that their natures and the surround-

ing conditions permit them to do. That is, the nomic necessity produced by their natures is sufficiently broad to permit a range of behaviors which are affected by logical force, practical force and what is phenomenally experienced as choice.

These axioms describe the states and properties of any interpersonal communication system, using terms which have existential referents. Thus they provide a heuristic model for the analysis of a framework for the development of specific hypotheses about any particular communication event.

Postulates:

1.1. The conjoining of two or more persons has the potential for generating an open system which permits the coordination of sequences of communicative behaviors.

1.2. A logic of conversation is created when the constitutive and regulative rules of two or more persons are conjoined in conversation.

1.2.1. The logic of interpersonal communication sy tems is field-dependent.

1.2.2. The content and structure of logics differs across situations.

1.2.3. Content and structure of rules is open to change from forces within and outside a dyad.

1.2.4. Constitutive and regulative rules are organizations of actors' construed meanings.

1.3. The type of pattern produced by a dyadic system is a function of

1.3.1. Contents of individuals' rules.

1.3.2. Structural properties of individuals' rules.

1.4. Conjoining of two or more actors' rules creates two generative mechanisms, logical and practical force, which are morphogenic.

1.5. The amount of control over the organization of sequences of communication behaviors varies as a function of the strength and symmetry of logical and practical forces.

1.6. Interpersonal communication systems are inherently imperfect.

1.6.1. They lack a superordinate cybernetic system monitor.

1.6.2. Human meanings are always to some degree ineffable and ideosyncratic.

Axioms:

2.1. To the extent that individuals are cognitively complex, they are able to construe hononic regulative and constitutive rules which increase the extent of systemic interpenetration of rules sets.

2.1.1. Cognitive complexity is a precondition of effective role taking.

2.1.2. Cognitive complexity is a precondition for the construction of complex (not socially insensitive) antecedents.

2.1.3. Cognitive complexity is a precondition of construing rules characterized by temporal extension (not static construction).

2.1.4. Cognitive complexity is a precondition of construing rules characterized by multifinality (not functional autonomy).

2.1.5. Cognitive complexity is a precondition of construing rules characterized by equifinality (not ritual construction).

2.1.6. Cognitive complexity is a precondition of construing rules characterized by hierarchical integration (not isolation).

2.2. To the extent that individuals are able to alter their rules, their ability to achieve systemic interpenetration of rule sets is increased.

2.2.1. The ability to critique the fit between the intention and the consequent of a rule increases the alterability of rules.

2.2.1.1. Critiqueability increases as a function of the contextualization of episode rules by the life-script.

2.2.1.2. Critiqueability is precluded by functional autonomy.

2.2.2. The range of a person's ability to change his rules increases as does the range of available constructs.

2.2.3. Alterability of rules varies inversely with hierarchical integration to life scripts containing prohibitions.

2.3. To the extent that rule sets are systemically interpenetrated, dysfunctional characteristics of the system will be reduced.

2.3.1. Systemic interpenetration of rule sets reduced uncontrolled oscillation.

2.3.2. Systemic interpenetration of rule sets reduces frangibility.

2.3.3. Systemic interpenetration of rule sets reduces undesired output.

Theorems:

3.1. Uncontrolled oscillation is a function of:

3.1.1. Differences in the constructs used to assign meaning.

3.1.2. Differences in the assignment of phenomena to positions on constructs.

3.1.3. Differences in constitutive rules that integrate meanings.

3.1.4. Inaccurate role taking.

3.1.5. Simplistic construction of antecedents in regulative rules.

3.1.6. Equifinal rules without sufficient temporal extension.

3.1.7. Equifinal rules without sufficient multifinality.

3.2. A history of uncontrolled oscillations will produce:

3.2.1. A cessation of the relationship, if possible.

3.2.2. If not possible and the actors are of sufficient complexity, a reconstruction of the rules as more multifinal.

3.2.3. If not possible and the actors are of low complexity, reconstruction of the rules as more ritualized.

3.3. Frangibility is positively related to:

3.3.1. Functionally autonomy.

3.3.2. Ritualized constructions.

3.4. Recurrent, unwanted patterns are:

3.4.1. Positively related to ritualized constructions.

3.4.2. Inversely related to temporally extended constructions.

3.5. Asymmetrical interpersonal power (manipulation of one person by another) is related to:

3.5.1. Asymmetrical role-taking ability.

3.5.2. Asymmetrical temporal extension.

CONCLUSION

The observation that communication is a complex process is scarcely controversial although the emergence of communication as a viable object for study is comparatively recent. The "coordinated management of meaning" offers an analytic framework which represents the structure of communication as the logic of an open system in which persons are holons and which lacks a superordinate cybernetic monitor. The model permits specific comparisons across systems and the development of hypotheses describing the relationships among characteristics of the system and system states.

The theory is scientific in that it includes concepts which have existential referents and because it explains phenomena causally. Within the range permitted by nomic necessity, particular events occur as affected by the generative mechanisms of logical and practical force. The complexity of communication is in part a function of the frequent imablance between these forces: dysfunctional systems states may be accounted for by large asymmetricity of

these forces while smaller asymmetricities make the system non-deterministic and invokes freedom of choice.

The theory's realism provides the means of empirical tests. Although the axioms and theorems specified here describe structural properties of systems, there is no major impediment to their operationalization. The major epistemic claim of the theory is that there are cross-systemic regularities in the configurations of interpersonal systems and that these affect the ability of persons to produce and control coordinated patterns of actions.

The theory functions both for communicators and observers as a surrogate for a superordinate cybernetic monitor, the absence of which poses the existential paradox of having to coordinate actions without the structure necessary to achieve full interpenetration of rule sets. To cope with this paradox, humans have developed a variety of surrogates: traditions, rituals, organizations or ideologies in which the individual is to subsume himself; consultants or analysts who purport to encompass the system although they actually redirect it by becoming a part of it; and theories such as the one presented here. By facilitating individuals' construals of the system as a whole, the theory permits individuals in the system to construe at a higher level of abstraction and duration than is possible if limited to their own vantage point. The likely effect is to reduce persons' predictability by others but increase their predictability (and control) by themselves (Maslow, 1966). Recalling our initial analysis of communication as epistemic, this effect has considerable implication for the development and functioning of social institutions.

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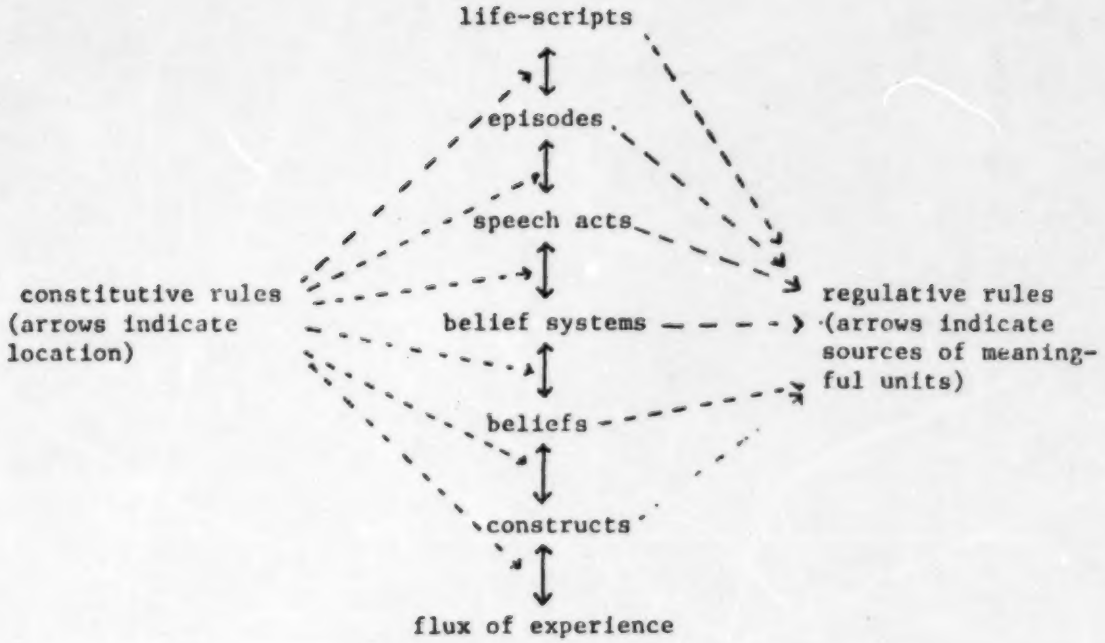

FIGURE 1: The Hierarchy Model of Meanings

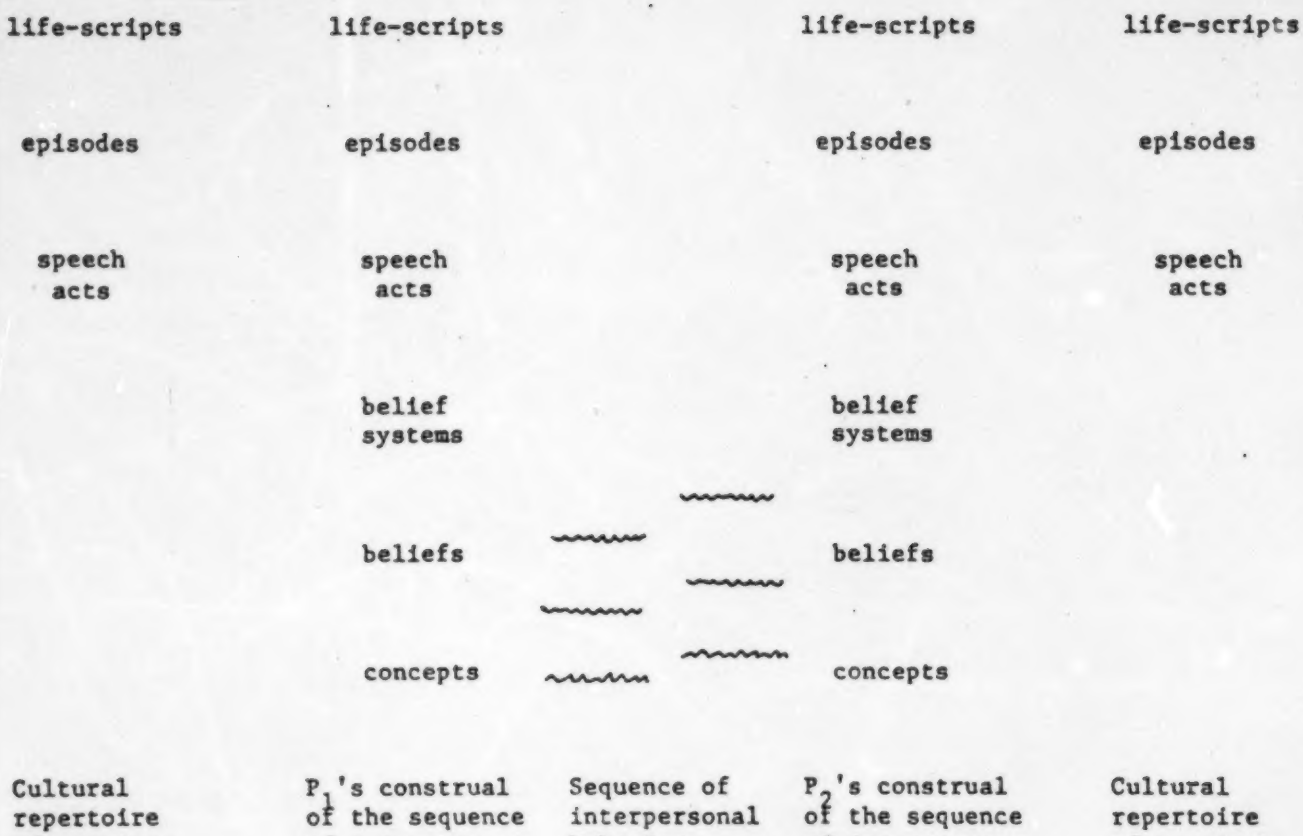

FIGURE 2: The Transactive Model of Interpersonal Communication

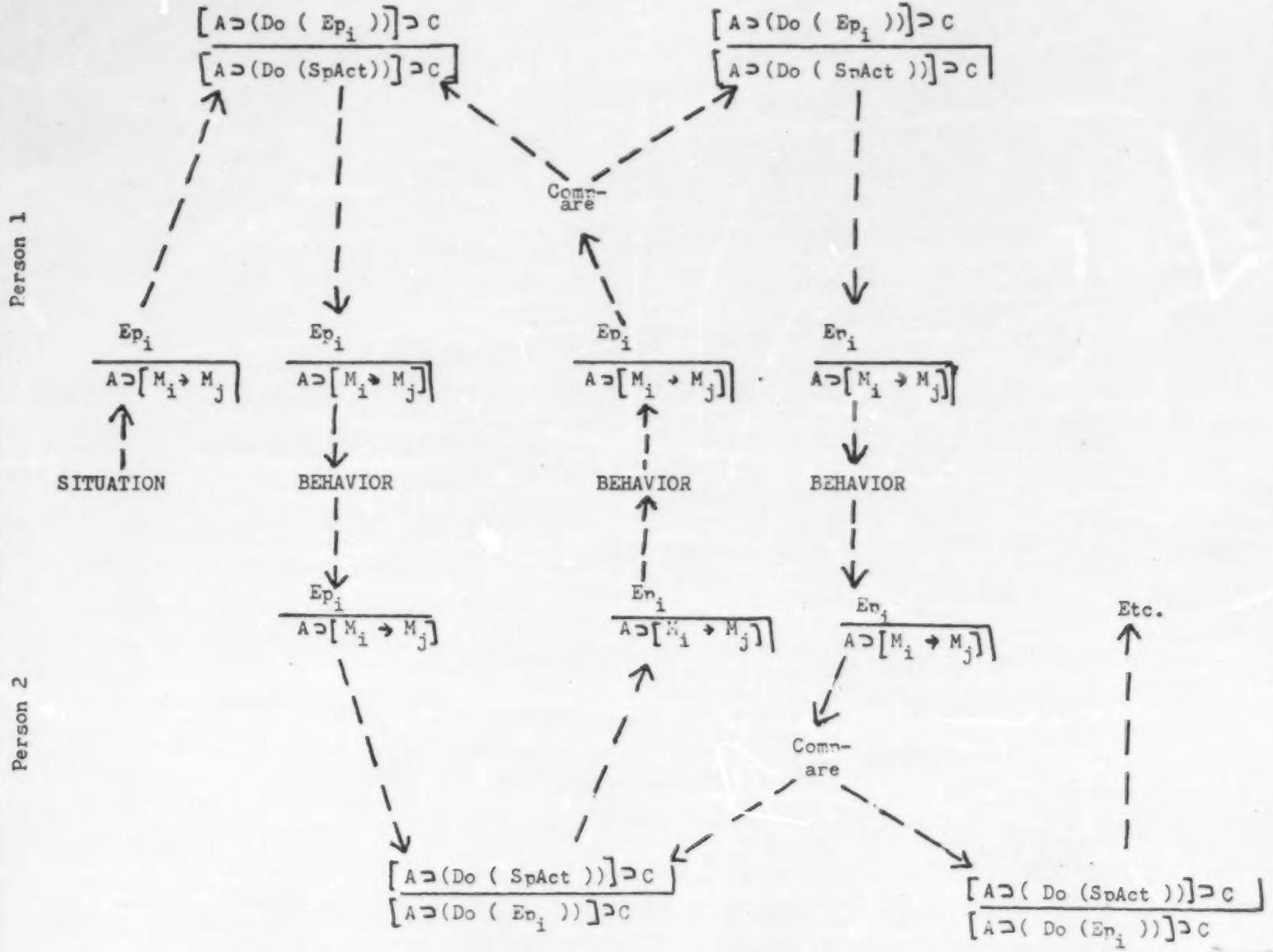

Figure 3: A Model of the Logic of Interpersonal Communication